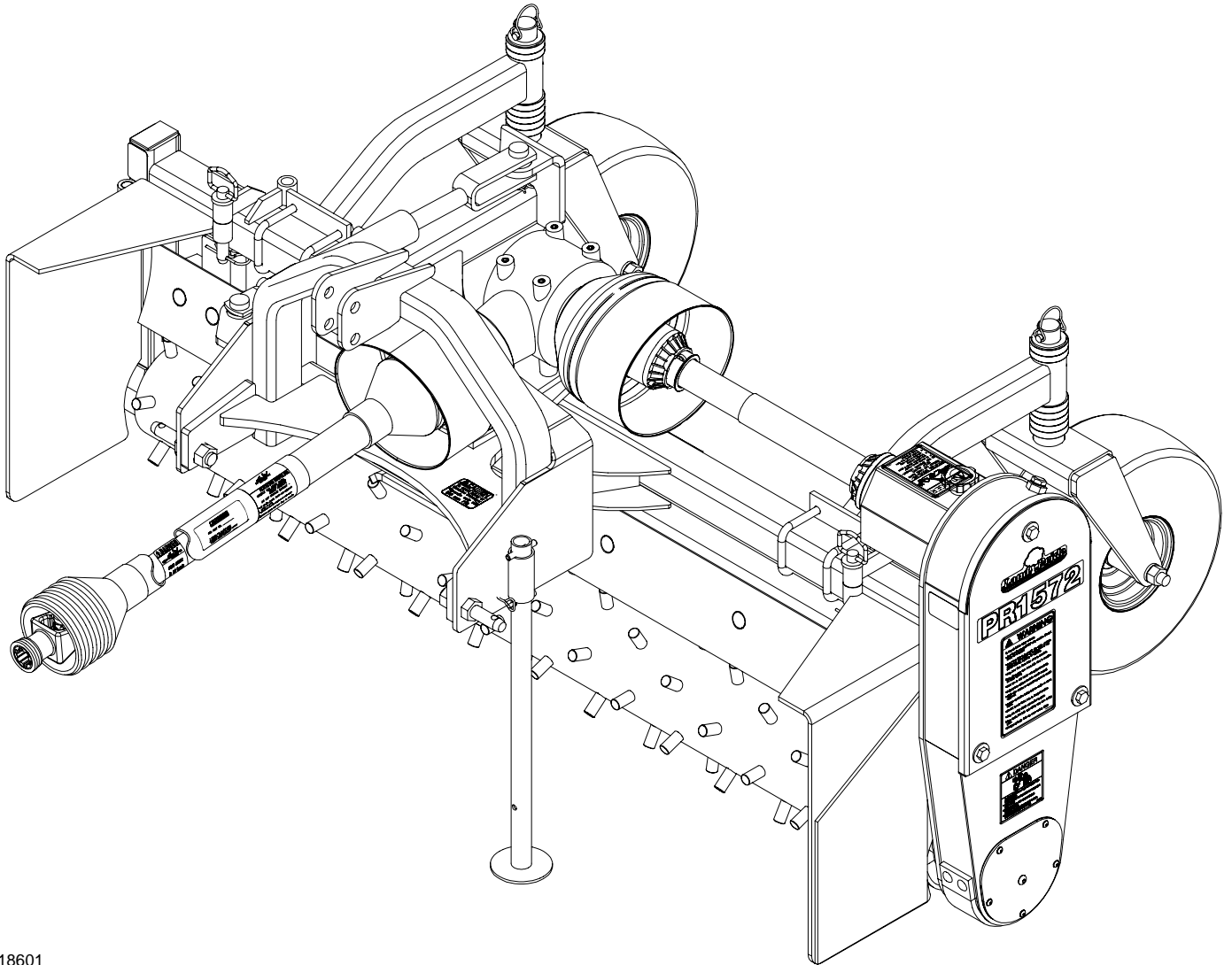


Powered Rakes

PR1560 & PR1572



18601

314-164M Operator's Manual



Read the Operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!



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Cover photo may show optional equipment not supplied with standard unit.

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Important Safety Information

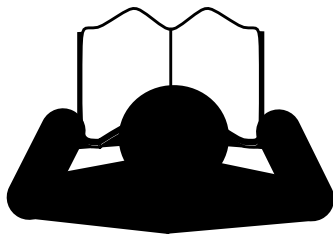
These are common practices that may or may not be applicable to the products described in this manual.

Safety at All Times

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Label" section, read all instructions noted on them.

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

- ▲ Operator should be familiar with all functions of the unit.
- ▲ Operate implement from the driver's seat only.
- ▲ Make sure all guards and shields are in place and secured before operating the implement.
- ▲ Do not leave tractor or implement unattended with engine running.
- ▲ Dismounting from a moving tractor could cause serious injury or death.
- ▲ Do not stand between the tractor and implement during hitching.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ Wear snug fitting clothing to avoid entanglement with moving parts.
- ▲ Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
- ▲ Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.



Look For The Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Be Aware of Signal Words

A Signal word designates a degree or level of hazard seriousness. The signal words are:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING

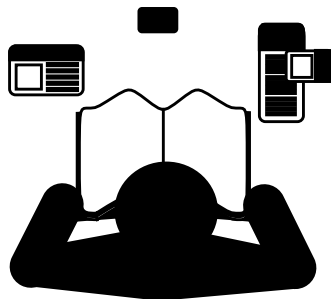
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

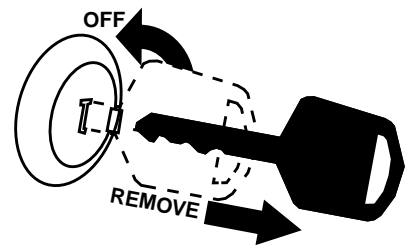
For Your Protection

- ▲ Thoroughly read and understand the "Safety Label" section, read all instructions noted on them.



Shutdown and Storage

- ▲ Lower machine to ground, put tractor in park, turn off engine, and remove the key.
- ▲ Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

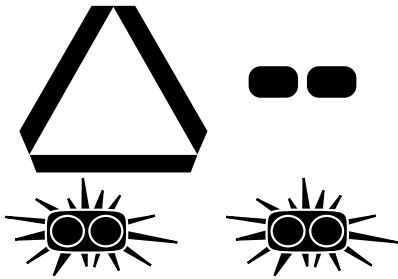


Important Safety Information

These are common practices that may or may not be applicable to the products described in this manual.

Use Safety Lights and Devices

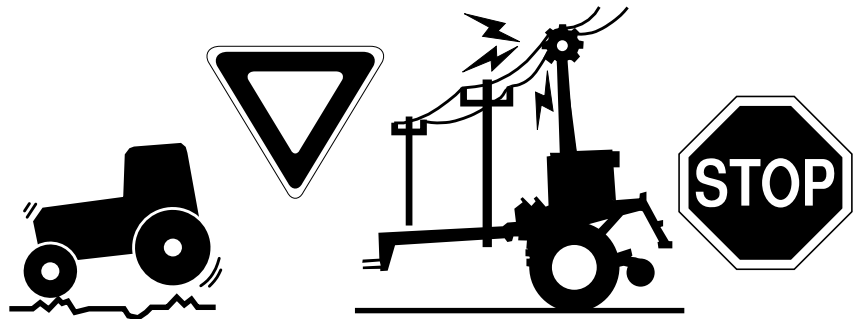
- ▲ Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads. Use lights and devices provided with implement.



Transport Machinery Safely

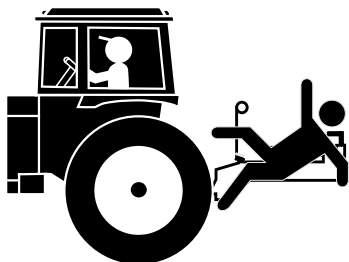
- ▲ Comply with state and local laws.
- ▲ Maximum transport speed for implement is 20 mph. **DO NOT EXCEED.** Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrain require a slower speed.
- ▲ Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.

- ▲ Use the following maximum speed - tow load weight ratios as a guideline:
20 mph when weight is less than or equal to the weight of tractor.
10 mph when weight is double the weight of tractor.
IMPORTANT: Do not tow a load that is more than double the weight of tractor.



Keep Riders Off Machinery

- ▲ Riders obstruct the operator's view, they could be struck by foreign objects or thrown from the machine.
- ▲ Never allow children to operate equipment.



Practice Safe Maintenance

- ▲ Understand procedure before doing work. Use proper tools and equipment, refer to Operator's Manual for additional information.
- ▲ Work in a clean dry area.
- ▲ Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.

- ▲ Allow implement to cool completely.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Inspect all parts. Make sure parts are in good condition & installed properly.
- ▲ Remove buildup of grease, oil or debris.
- ▲ Remove all tools and unused parts from implement before operation.

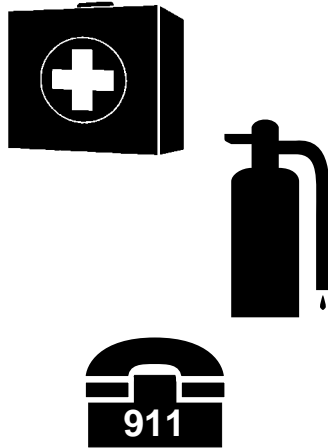


Important Safety Information

These are common practices that may or may not be applicable to the products described in this manual.

Prepare for Emergencies

- ▲ Be prepared if a fire starts.
- ▲ Keep a first aid kit and fire extinguisher handy.
- ▲ Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

**Wear Protective Equipment**

- ▲ Protective clothing and equipment should be worn.
- ▲ Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- ▲ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.

**Avoid High Pressure Fluids Hazard**

- ▲ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing work on the system.
- ▲ Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be treated within a few hours or gangrene may result.



Important Safety Information

Safety Labels

Your Powered Rake comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

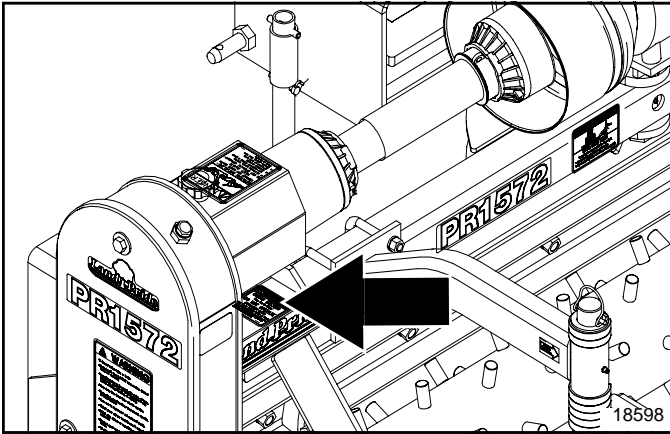
1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels. To order new labels go to your nearest Land Pride dealer or visit our dealer locator at landpride.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as

specified by Land Pride. When ordering new components make sure the correct safety labels are included in the request.

4. Refer to this section for proper label placement.

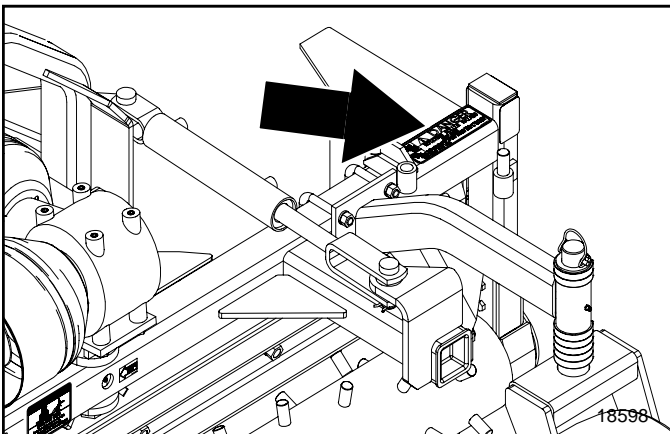
To install new labels:

- a. Clean the area the label is to be placed.
- b. Spray soapy water on the surface where the label is to be placed.
- c. Peel backing from label. Press firmly onto the surface.
- d. Squeeze out air bubbles with the edge of a credit card.



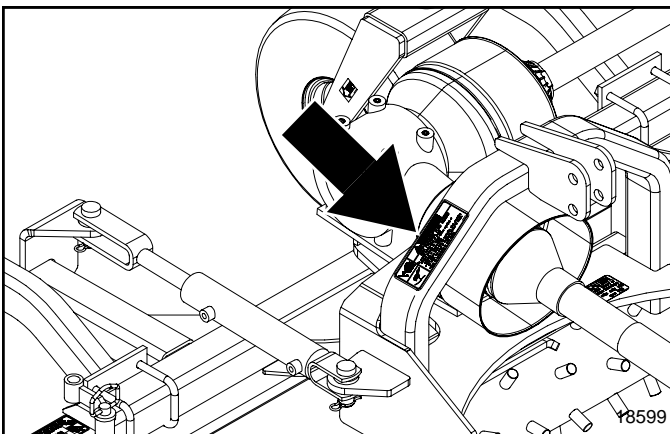
818-543C

Danger: Guard Missing



818-254C

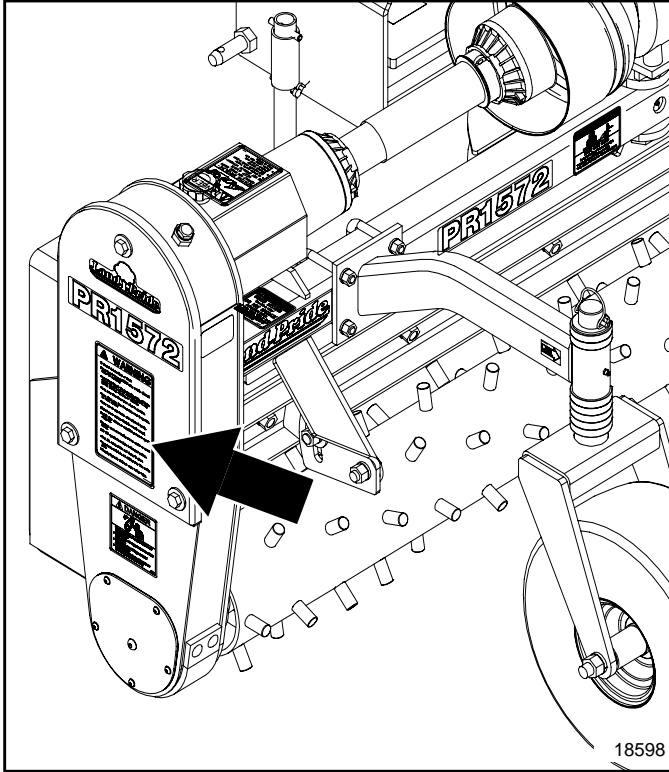
Danger: Rotating Roller Hazard



838-094C

Warning: High Pressure Fluid Hazard

Important Safety Information



⚠ WARNING

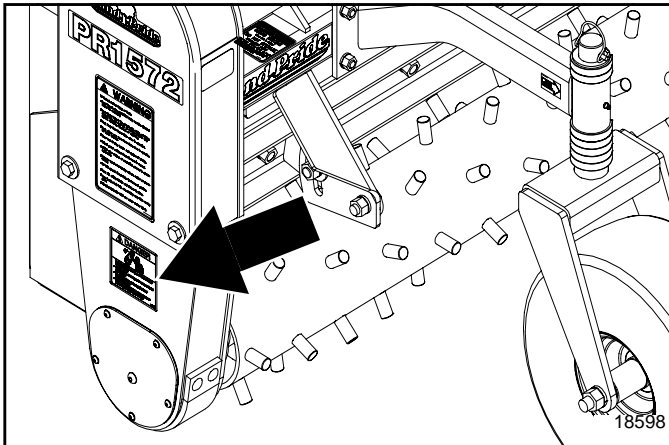
To prevent Serious Injury or Death:

- Read Owner's Manual BEFORE using machine. (Contact Dealer for manuals.)
- Lower Power Rake to the ground, stop engine, set brake, remove key, and wait for all moving parts to stop BEFORE servicing, repairing, or adjusting.
- Keep Away from Power Rake when in operation.
- Keep others away from Power Rake when in operation. No riders allowed.
- Know how to stop tractor and equipment quickly.
- Ballast power unit per tractor's owner's manual.
- NEVER allow children or unqualified persons to operate equipment.
- Decrease speed when turning and use caution on uneven terrain.
- DO NOT operate Power Rake in transport position.
- Keep ALL safety shields and devices in place.
- Keep hands, feet, hair, and clothing away from moving parts.
- Escaping hydraulic fluid can cause serious injury.

818-255C Rev. A

818-255C

Warning: General Safety



⚠ DANGER

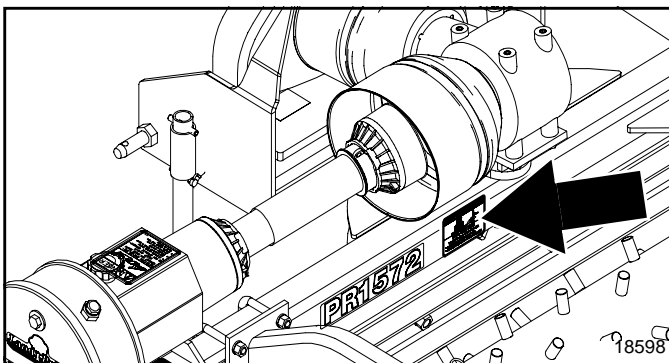
To Prevent Serious Injury Or Death From Moving Parts:

- KEEP AWAY, Moving parts can crush and dismember.
- Do not operate without guards and shields in place.
- Disconnect and lockout power source before adjusting and servicing.

8W108

838-111C

Danger: Moving Parts



⚠ DANGER

THROWN OBJECT HAZARD

To prevent serious injury or death from thrown object:

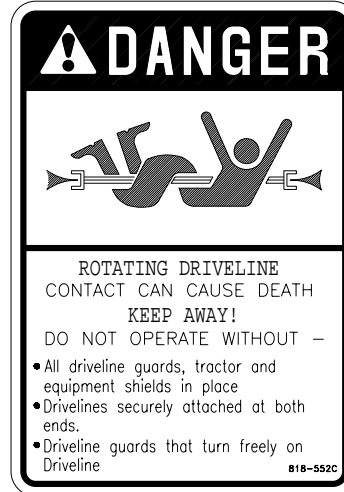
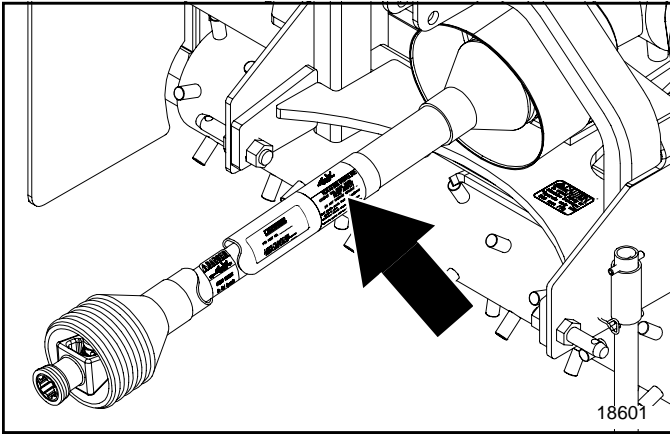
- Operate with all guards installed in good condition.
- Stop operation if bystanders come within several hundred feet.

818-603C

818-603C

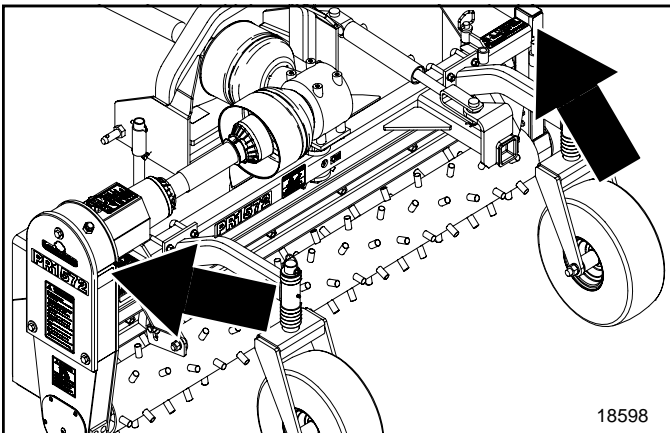
Warning: Thrown Object

Important Safety Information



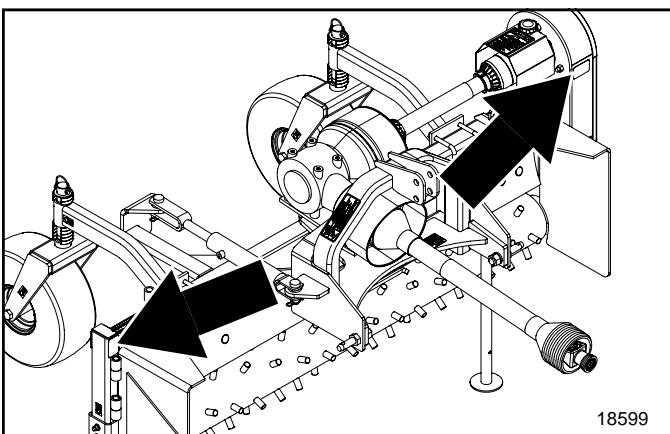
818-552C

Danger: Rotating Driveline



818-230C

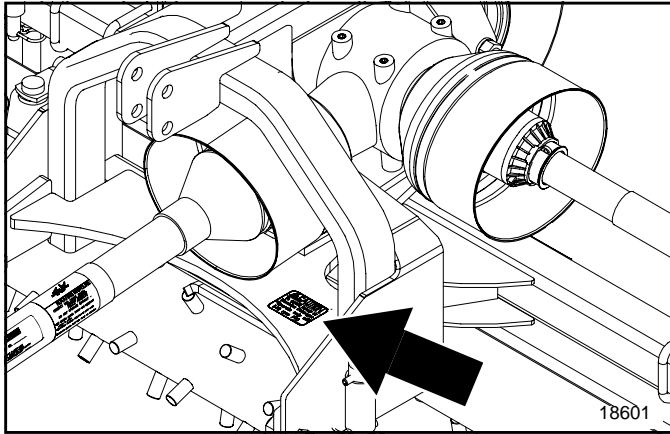
Red Reflector



818-229C

Amber Reflector

Important Safety Information



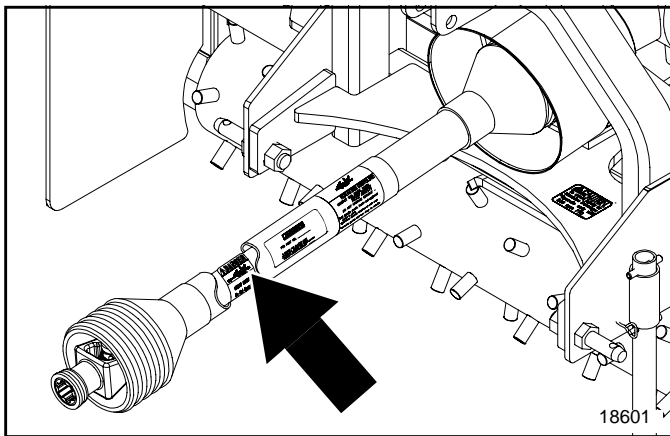
CAUTION

To avoid Injury or Machine Damage:
*Operate only with 540 rpm PTO

818-130C Rev. B

818-130C

Caution: 540 RPM



DANGER

GUARD MISSING
DO NOT OPERATE

DANGER

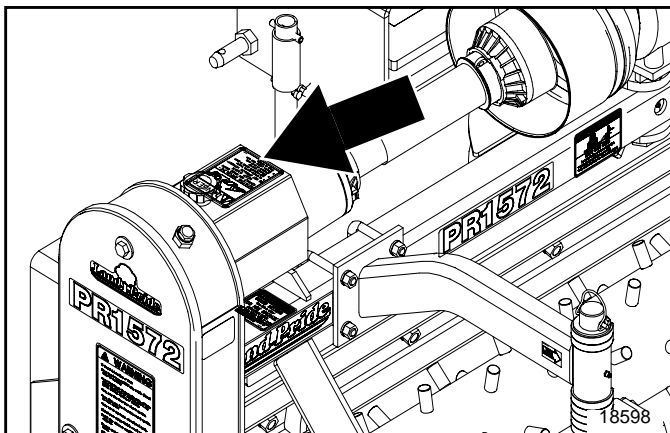
GUARD MISSING
DO NOT OPERATE

818-540C

DANGER

818-540C

Danger: Guard Missing



DANGER

ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!
DO NOT OPERATE WITHOUT -

- All driveline guards, tractor and equipment shields in place
- Drivelines securely attached at both ends.
- Driveline guards that turn freely on Driveline

818-552C

818-552C

Danger:
Rotating Driveline
(Also on Driveline
Beneath Guard)

Introduction

Land Pride welcomes you to the growing family of new product owners.

This Powered Rake has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from the machine.

Application

The PR15 Series Powered Rakes are designed and built by Land Pride to be multi-functional seed bed or soil surface preparation tools for landscapers and turf care professionals. They are capable of grading, leveling, shaping, cultivating, renovating and pulverizing various types of soil surfaces. They are also capable of raking or windrowing soil, rocks and construction site debris. Their 60" or 72" working width and compatibility with 20 - 40 horsepower Cat. 1 540 RPM PTO tractors make them a good choice for smaller or "space restricted" landscaping and turf renovation jobs. See "Features and Benefits", "Section 6" for additional information.

Using This Manual

- This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual contact your authorized dealer. Manuals can also be downloaded, free-of-charge from our website at www.landpride.com or printed from the Land Pride Service & Support Center by your dealer.

Terminology

"Right" or "Left" as used in this manual is determined by facing the direction the machine will operate while in use unless otherwise stated.

Definitions

NOTE: A special point of information that the operator must be aware of before continuing.

IMPORTANT: A special point of information related to its preceding topic. Land Pride's intention is that this information should be read and noted before continuing.

Owner Assistance

The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

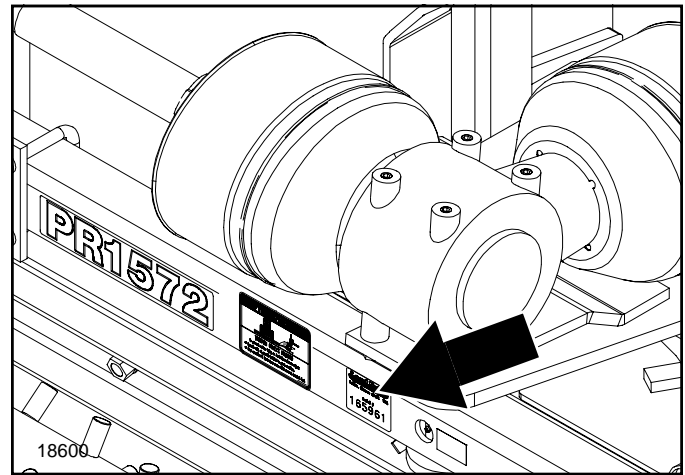
If customer service or repair parts are required contact a

Land Pride dealer. A dealer has trained personnel, repair parts and equipment needed to service the ?????.

The parts on your Powered Rake have been specially designed and should only be replaced with genuine Land Pride parts. Therefore, should your ????? require replacement parts go to your Land Pride Dealer.

Serial Number Plate

For prompt service always use the serial number and model number when ordering parts from your Land Pride dealer. Be sure to include your serial and model numbers in correspondence also. Refer to Figure 1 for the location of your serial number plate.



Serial Number Plate Location
Figure 1

Further Assistance

Your dealer wants you to be satisfied with your new Powered Rake. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss the matter with your dealership service manager making sure he is aware of any problems you may have and that he has had the opportunity to assist you.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the problem and request assistance.
3. For further assistance write to:

Land Pride Service Department
1525 East North Street
P.O. Box 5060
Salina, Ks. 67402-5060

E-mail address
lp servicedept@landpride.com

Section 1: Assembly and Set-Up

Tractor Requirements

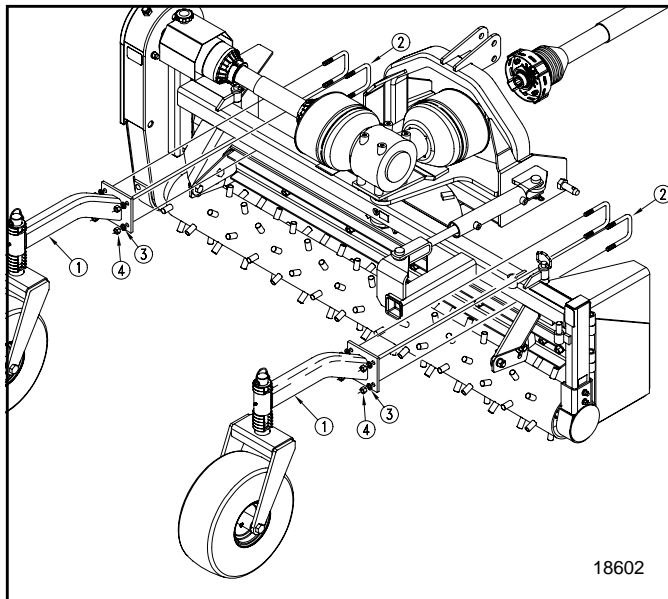
The Powered Rake is designed with a category 1, 3-point hitch and will fit a Land Pride Cat. 1 Quick-Hitch. The maximum horsepower rating for the tractor is 45 HP depending on lift capacity and field conditions. Front tractor weights and/or ballast to tires may be required to offset weight of unit. Consult your tractor manual for details.

Gauge Wheel Assembly (PR1572)

Refer to Figure 1-1:

PR1572 is shown. On the PR1560 the gauge wheel arms are part of the frame.

1. Install the gauge wheels (#1) to the frame with the u-bolts (#2) lock washers (#3) and nuts (#4) as shown.



Gauge Wheel
Figure 1-1

Tractor Hook-Up

CAUTION

Do not stand between the tractor and implement during hook-up.

1. Be certain that the tractor draw bar will not interfere. Move draw bar ahead or remove if required. Draw bar should also be checked for clearance when unit is being raised for the first time.
2. Align lower link arms of tractor to hitch lugs on Powered Rake. Insert lower hitch pins into lower ball swivels and attach linch pins.
3. Attach tractor top link to upper hitch of Powered Rake. Secure with pin.
4. Connect hydraulic hoses on Powered Rake to the tractor.

WARNING

Hydraulic fluid under pressure can penetrate skin. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for hydraulic leaks. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.

Driveline Installation

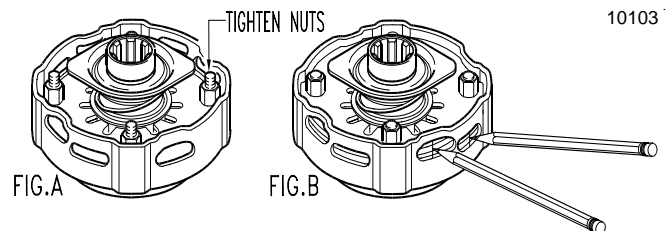
1. Slide the driveline over the splined shaft at the front of the Powered Rake and secure with the locking device of driveline.

IMPORTANT: The inner shield half attaches to the Powered Rake.

2. Slide the driveline over the tractor's splined PTO shaft and secure with the locking device of driveline.
3. Hook the safety chain on the driveline Powered Rake end around a tube on the front of the Powered Rake to prevent the shield from rotating.
4. The driveline should now be moved back and forth to insure that it is secure on the PTO shaft of the tractor and Powered Rake drive shaft.
5. Should the driveline require shortening:
 - a. Hold the half-shafts next to each other in the shortest working position and mark them.
 - b. Shorten inner and outer guard tubes equally.
 - c. Shorten inner and outer sliding profiles by the same length as the guard tubes.
 - d. Proper overlap is a minimum of one-half the length of each tube, with both tubes being of equal length.
 - e. Round off all sharp edges and remove burrs. Grease sliding profiles.

Prior to initial operation and after long periods of inactivity, the Friction Clutch should be "run-in". Refer to Figure 1-2.

1. Tighten all 4 nuts uniformly until the spring load is low enough that the clutch slips freely with the PTO engaged.
2. Turn nuts fully back. Clutch is ready for use.



Friction Clutch "Run In"
Figure 1-2

Transporting

IMPORTANT: ALWAYS disengage PTO before raising the Powered Rake to transport position.

1. When raising the Powered Rake to the transport position, be sure that the driveline does not contact tractor or Powered Rake.
2. Be sure to reduce tractor ground speed when turning; and leave enough clearance so the Powered Rake does not contact obstacles such as buildings, trees or fences.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.



CAUTION

When traveling on public roads, whether at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all federal, state, and local laws.

Operating Checklist

1. Check chain tension. Refer to "Drive Chain Adjustment" on page 11.
2. Check oil level in gearbox and chain case. Refer to "**Lubrication**" on page 14 of this manual.
3. Check that all plugs have been replaced properly in the gearbox and chain case.
4. Be sure all bolts and nuts are tight.
5. Be certain all guards and shields are in place and secure.
6. Grease driveline shaft and all other grease fittings. Refer to "**Lubrication**" on page 14.
7. Check air pressure in gauge wheel tires. It should be 45 psi.

Operating Instructions

Once you have familiarized yourself with the Operator's Manual, completed the Operator's checklist, properly attach the Powered Rake to your tractor, and made initial depth setting, leveling, and roller angle adjustments, you are almost ready to begin using your Land Pride Powered Rake.

Hopefully you have chosen a work site that is dry and will allow you to make at least a straight 50ft. long pass to determine final adjustments. Powered Rakes do not perform well in wet sticky soil conditions and are not designed to make sharp turns or back up when in contact with the ground.

It's now time for a running operational safety check. With the tractor's park brake engaged, the tractor PTO

disengaged, and the Powered Rake resting on the ground, start the tractor and back off to approximately one-quarter throttle. Using the rear draft link hydraulic control, lift the Powered Rake about half way off the ground. Now engage the rear PTO and, if everything is running smoothly, keep increasing the tractor throttle until you have reached full tractor PTO operating speed. If at any time the PTO driveline or Powered Rake is not operating properly shut off all power and make necessary adjustments. Never engage the tractor PTO at full rpm or with the Powered Rake in the fully raised position or driveline and unit damage could occur.

With the running operational safety check complete, it's time to do some serious soil renovation at your chosen work site. With the Powered Rake raised half way off the ground and the tractor PTO disengaged, release the park brake and travel to your starting point. Choose a tractor gear selection or range that will allow you to travel between 3 - 5 mph. With the tractor engine at idle, engage the rear tractor PTO and increase engine speed until the PTO is at full 540 rpm output. Begin forward travel while gently lowering the running Powered Rake to the ground. Observe changes in the finish as you travel forward and make slight changes to ground speed. Generally, a slower speed results in a finer finish, while a higher speed results in a coarser finish. Excessive ground speed may result in dirt or material passing over the top of the material control deflector or too much material being windrowed off to the side. While 15 degrees left or right is the normal operating angle, you may want to make subtle hydraulic adjustments to the roller to determine the varying effect on the surface finish. If you notice too many rocks or excessive debris passing under the roller, you will probably have to make a depth control adjustment. A one-inch cultivation depth is normally considered ideal for a surface finish.

Setting the working depth and leveling the rake is controlled by the caster gauge wheels and not the tractor. The Powered Rake is equipped with C-spacers on the gauge wheel spindles. This enables depth and leveling adjustments without gauge wheel removal. Simply add spacers to decrease working depth or remove spacers to increase working depth. In order to compensate for the additional weight of the chain case on the left side of the rake, you will probably need to add spacers to the left side gauge wheel lowering it approximately one inch for proper side-to-side and level running operation. See Figure 3-1 page 11.

After you have traveled 50 feet, stop the tractor, disengage the PTO, set the park brake, turn off the tractor, and remove the key. Now climb down and inspect the finish and determine what, if any, adjustments need to be made. Check for any foreign objects that may be wrapped around the roller or lodged between the studs. Remember that the right finish is achieved through a combination of proper soil moisture conditions, operating depth, ground speed, material gate opening, and roller angle. Your Powered Raking capabilities will improve rapidly with experience.

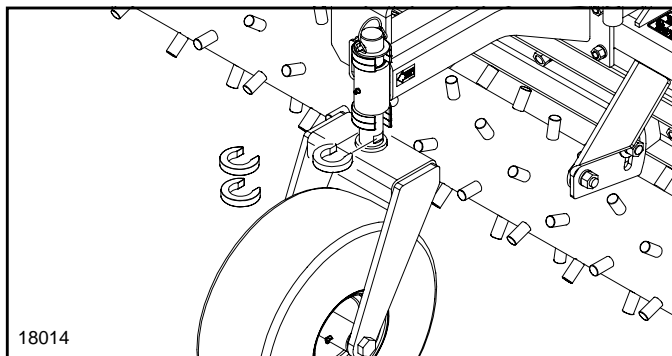
Section 3: Adjustments

Gauge Wheels

Caster gauge wheels are mounted on the rear of the frame to control the height of the roller during field operation.

Setting the Working Depth

The operating depth is controlled by the caster gauge wheels and not the tractor. The Powered Rake is equipped with C-spacers on the gauge wheel spindles so that the gauge wheels do not have to be removed for adjustment. Simply remove the spacers at the cut outs at the bottom of the gauge wheel spindles as shown in Figure 3-1. Move the gauge wheels up for greater depth or move them down for less depth. To allow for weight the gauge wheel on the chain case side should be approximately 1 inch lower than the non-drive side gauge wheel for best results.



Depth Adjustment
Figure 3-1

Powered Rake Roller

The roller is powered by a roller chain attached to a sprocket mounted on a driveline that runs off the gearbox. A hydraulic cylinder angles the roller frame 20 degrees in either direction for windrowing material to the side. There are two roller options available. The scrolled roller is designed for hard rocky ground to scrape rocks out of the top few inches of dirt. The roller and material control deflector, screen the material for unwanted rocks and debris while letting through finely sifted dirt. The carbide enhanced tuff studs roller is for ground preparation. The tuff studs roller can also be used to rip away low growing vegetation.

Drive Chain Adjustment

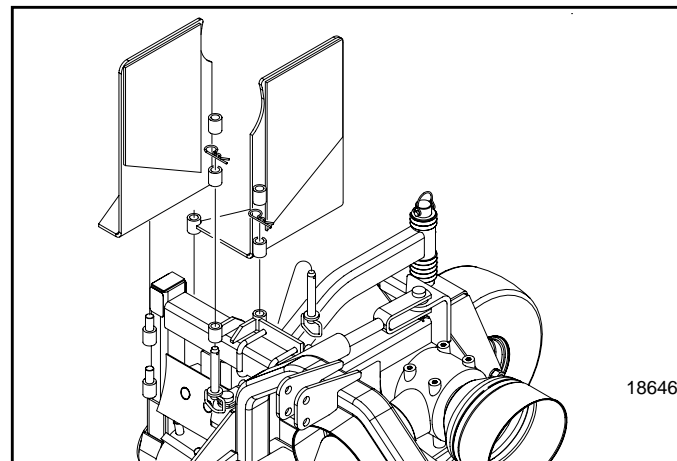
CAUTION

BEFORE any maintenance is performed, lower the Powered Rake to the ground, stop tractor engine and remove the key. DO NOT attempt to make maintenance adjustments while tractor is running.

1. If the chain should become loose, either the spring on the idler arms or the chain needs to be replaced. See “Sprocket and Drive Chain Replacement” page 12.

End Plates

End plates are utilized to gather and keep rocks and debris in front of the roller to distribute the material to fill in low spots. End plates can be removed and stored on the unit for final grading as shown in Figure 3-2.

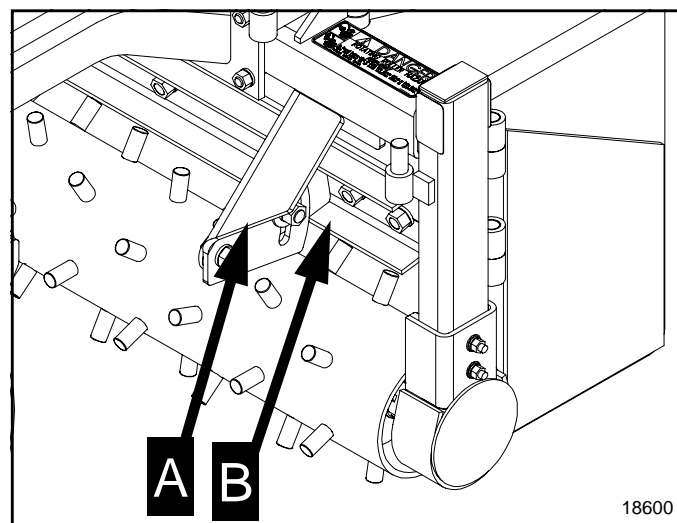


End Plates (Not in use)
Figure 3-2

Material Control Deflector Adjustment

A material control deflector is mounted above the roller so control can be established over both the size and shape of the materials being cleaned or raked. The gap between the material control deflector and the rake roller can be adjusted to widen or narrow the opening. A wider opening will allow more dirt and rock to pass through. A narrow opening will allow for finer raking.

The height of the material control deflector can be adjusted by loosening the bolts (A) and rotating the material control deflector (B) to desired height. Refer to Figure 3-3.



Material Control Deflector Adjustment
Figure 3-3

Section 4: Maintenance and Lubrication

Maintenance

CAUTION

BEFORE any maintenance is performed, lower the Powered Rake to the ground, stop tractor engine and remove key. DO NOT attempt to make maintenance adjustments while tractor is running.

IMPORTANT: Proper servicing and adjustment is the key to the long life of any machine. With careful and systematic inspection of the Powered Rake, costly maintenance, time and repair can be avoided.

Storage

At the end of the working season or when the Powered Rake will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on any of the moving parts.

Check the roller studs or bars for wear and replace the roller and/or studs if necessary.

Inspect the Powered Rake for loose, damaged or worn parts and adjust or replace if needed.

Lubricate as noted in “**Lubrication**” on page 14.

Repaint parts where paint is worn or scratched to prevent rust.

Drain gearbox and chain case oil. Drain oil in gearbox by removing the bottom drain plug. Drain oil in chain case by removing bottom cover (#2) Figure 5-2. Be sure to refill gearbox and chain case at this time.

Apply a light coat of grease to any exposed hydraulic cylinder rod.

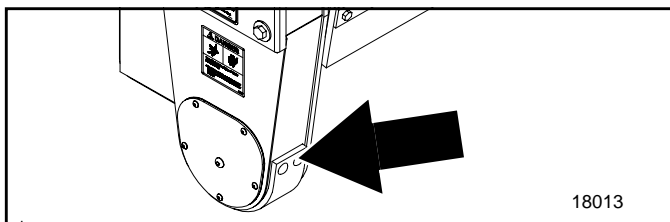
Store Powered Rake in a clean, dry place.

Drive Chain Maintenance

The operator should check periodically to make sure that the drive chain is tight. If adjustment is needed refer to “**Drive Chain Adjustment**” on page 11.

Chain Case Skid Shoe Replacement

IMPORTANT: If chain case skid shoe needs to be replaced, it is important that the carriage bolt threads and nuts are coated generously with Sikaflex. This will insure that there is no oil leakage from chain case.



Chain Case Skid Shoe Replacement
Figure 5-1

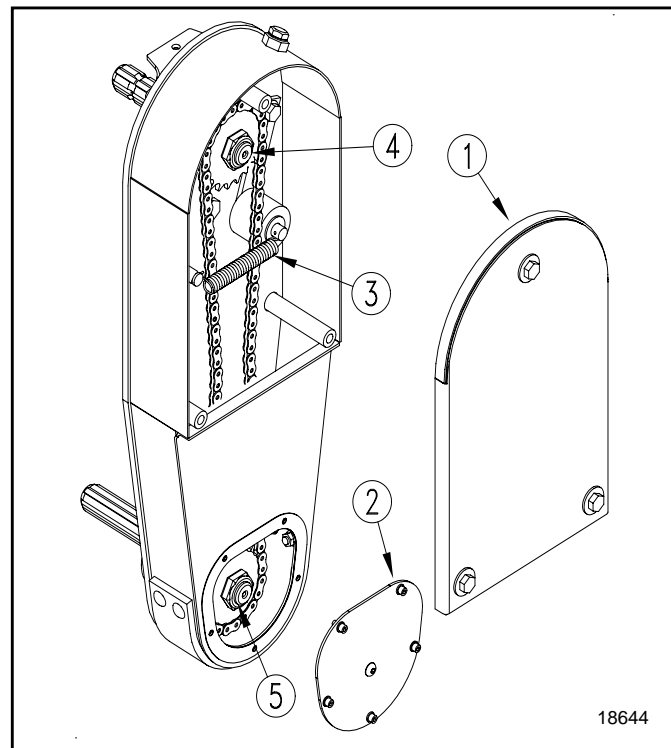
Sprocket & Drive Chain Replacement

Refer to Figure 5-2:

1. Remove cover plate (#1) and bottom plate (#2).

NOTE: Oil in chain case! Be prepared to capture oil when taking off bottom cover.

2. Loosen chain tension by removing spring (#3) from idler arm.
3. Remove nut (#4) on and/or (#5) sprockets.
4. Remove sprockets and chain.
5. Install new chain and sprockets.
6. Reinstall nut (#4) and (#5).
7. Reinstall spring (#3).
8. Turn the roller several turns and observe the chain to make sure everything is working properly.
9. Reinstall cover plate (#1) and bottom plate (#2).
10. Check the oil level in the chain case. See “**Lubrication**” on page 14.



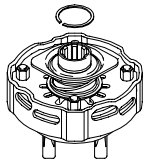
Sprocket and Drive Chain Replacement
Figure 5-2

2-Plate Slip Clutch

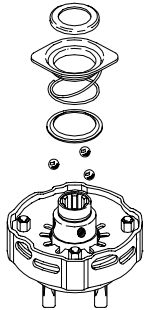
NOTE: Before proceeding, secure the clutch firmly in a vise or other clamping device to prevent injury.

Section 4: Maintenance and Lubrication

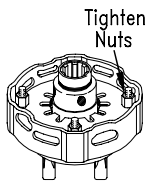
2-Plate Disassembly



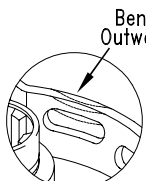
◀ **Step 1**
Remove snap ring.



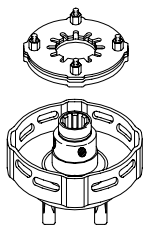
◀ **Step 2**
Remove backup ring, lock collar, compression spring, bottom backup ring, and balls.



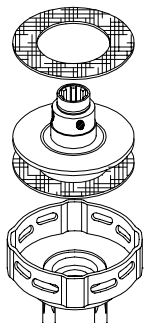
◀ **Step 3**
Tighten the four hex nuts uniformly until the clutch pack and hub are loose.



◀ **Step 4**
Bend all four retaining lugs out on edge of clutch housing.



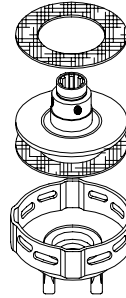
◀ **Step 5**
Remove thrust plate with Belleville Springs and lug rings to access friction discs and hub for inspection or service.



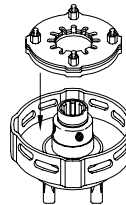
◀ **Step 6**
Inspect friction discs and hub.

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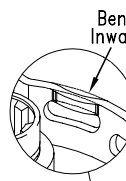
2-Plate Assembly



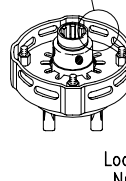
◀ **Step 1**
Place hub and friction discs into the housing.



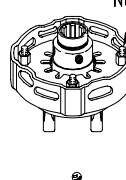
◀ **Step 2**
Compress Belleville Springs to the pressure plate by tightening the four hex nuts and then placing the assembly into the clutch housing.



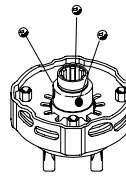
◀ **Step 3**
Bend retaining lugs inward over the Belleville Spring edges to secure the spring before backing the four hex nuts off.



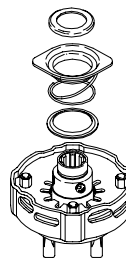
◀ **Step 4**
With lugs bent in, loosen the four hex nuts completely to the end of the threaded studs.



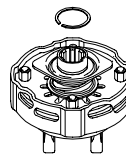
◀ **Step 5**
Insert greased balls.



◀ **Step 6**
Install bottom backup ring, compression spring, lock collar, and top backup ring.







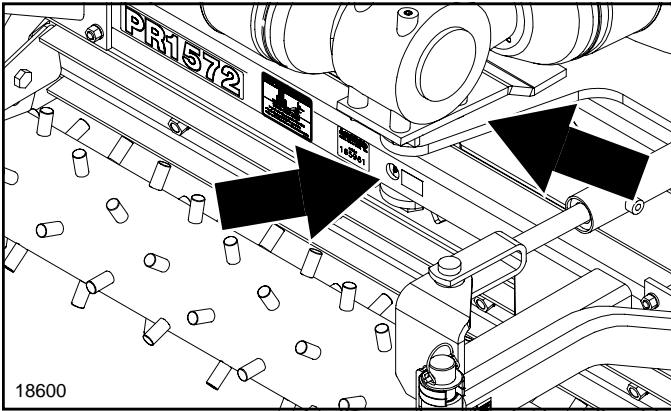
◀ **Step 7**
Install snap ring.





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Lubrication

Lubrication Legend	 Multi-purpose spray lube	 Multi-purpose grease lube	 Multi-purpose oil lube	 50 Intervals in hours at which lubrication is required

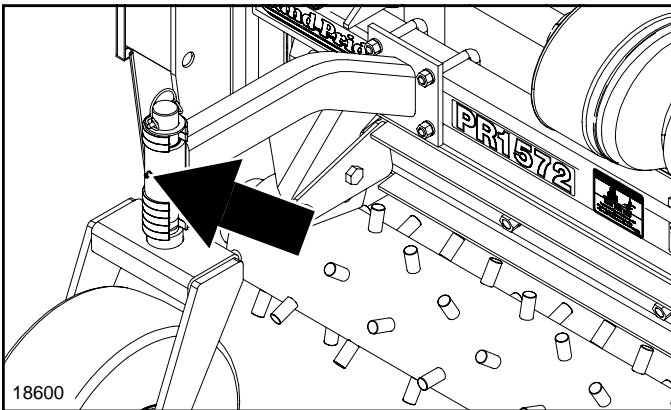




	 25 Hours
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Pivot

18012

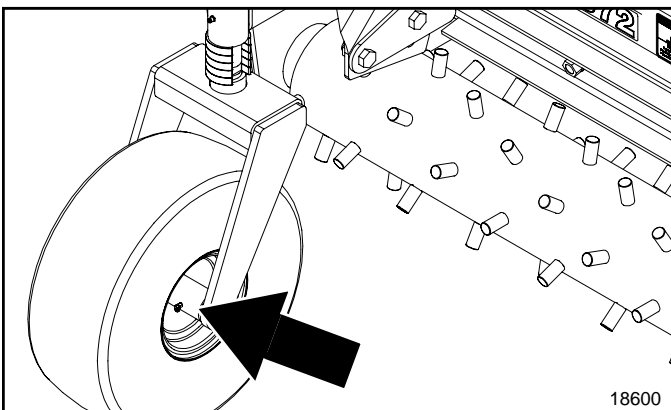
Type of Lubrication: Multi-Purpose Grease





	 25 Hours
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Gauge Wheel Spindle

Type of Lubrication: Multi-Purpose Grease

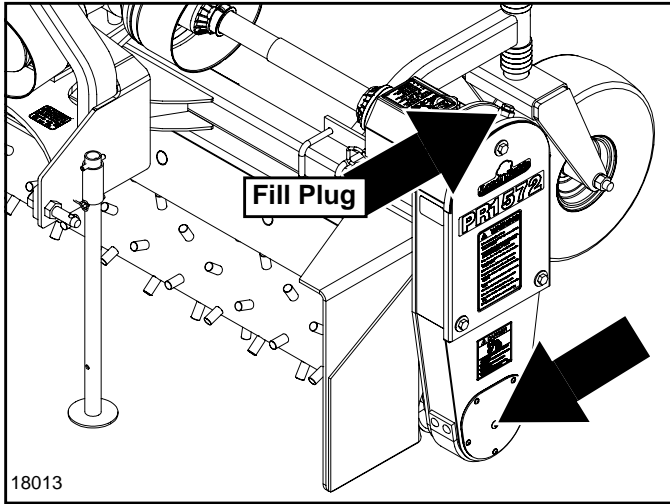


	 25 Hours
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Gauge Wheel

Type of Lubrication: Multi-Purpose Grease

Section 4: Maintenance and Lubrication

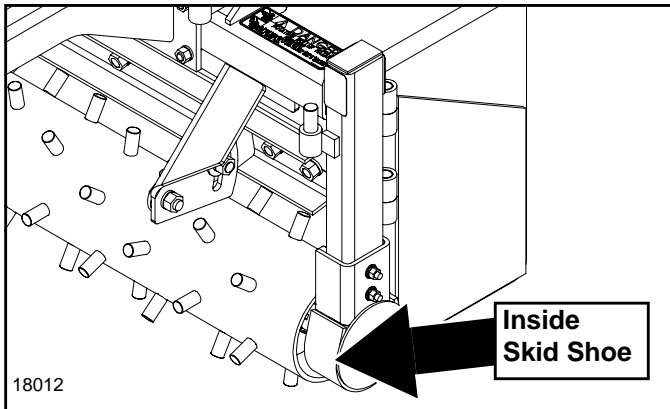


		As Required
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Drive Chain

Oil should escape from the lower plug hole in chain case when the lower plug is removed. If oil is needed remove top fill plug and add oil until it escapes from lower plug hole.

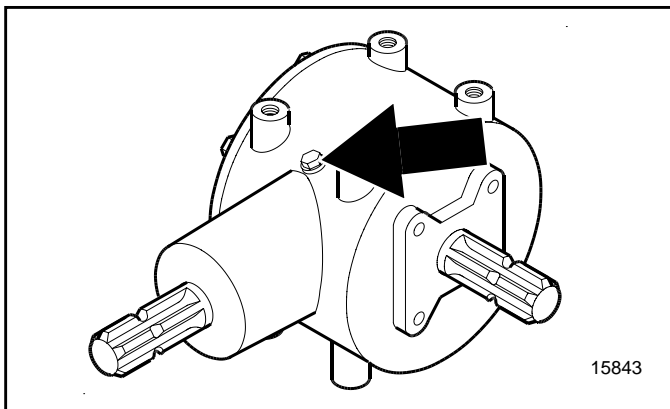
Type of Lubrication: Shell Alvania EP 00



		25 Hours
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Non-Drive Bearing

Type of Lubrication: Multi-Purpose Grease (Remove Skid Shoe to grease)



		50 Hours
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Gearbox

Type of Lubrication: SAE 90



PR1560 & PR1572 Powered Rakes		
Model	PR1560	PR1572
Working Width	60"	72"
Hitch	Cat. 1	
Quick-Hitch	Fits Land Pride Quick-Hitch	
Tractor Horsepower Range	30 HP	40 HP
Gearbox	540 RPM, Ball Bearings, Cast Iron Housing, Drain Plug	
Primary Driveline	Cat. 2 with Slip-Clutch	
Secondary Driveline	Cat. 2 Heavy-Duty	
Material Control Deflector	1/2" X 6" Heat treated reversible	
Roller	9 3/8" Dia. with 3/4"X1 1/2" ISC Tuff Studs or 8 3/16" Dia. with 3/4" Spiral Bars, 180-260 RPM	
Ball Bearings	at Roller Ends	
Drive Chain	#50 Double	
Chain Case Oil	Shell Alvania EP 00	
Angle Adjustment	15 degrees left or right	
Angle Cylinder	2" X 8"	
End Plates	Standard, Removable with Storage Rack	
Gauge Wheels	PR1560: 13" X 6.5", PR1572: 16.5" X 6.5" Air Tires with Sealant and 3/4" Roller Bearings and Spacer Height Adjustment	
Skid Shoes	Replaceable	
Weight	880 lbs.	970 lbs.



Section 6: Features & Benefits

Features	Benefits
Working widths	60", 72"
Tractor Horsepower Range	30 - 40 HP
Cat. 2 driveline with slip-clutch (primary shaft)	Slip-clutch offers protection to the gearbox and entire power train when a tough obstruction is encountered with the roller.
3/4" x 1 1/2" Carbide ISC Tuff Studs Roller	Carbide enhanced Tuff Studs are very tough, used in the mining industry, this offers a long life to the studs. Studs can be replaced one at a time.
Scrolled roller available	Scrolled roller will windrow rocks and other debris, leaving an excellent seedbed.
15 Degrees left or right angling	By angling either direction, the user has many options on what direction to work his area.
Gauge wheels with sealant	Tall and wide tires keep turning in fluffy soil. Sealant helps seal against punctures.
End plates with storage	End plates can be used to hold dirt in which can aid in filling low spots. Easily store the end plates on the Powered Rake. End plates are always with the Rake when needed.
Material control deflector	Material control deflector is used to determine what size of material to let pass through the roller, and what size to move out.
Replaceable skid shoes	Skid shoes protect larger and vital parts of the unit. As they wear due to soil contact, they can easily be replaced.
#50 Double continuous roller chain	Double chain can take the fluctuation loads from the roller due to varying ground conditions.
Drive chain enclosed in oil bath	A small amount of oil keeps the chain and sprockets lubricated to keep abrasion to a minimum.
1 Year gearbox warranty	Shows our confidence in the gearbox integrity.

Section 7: Troubleshooting

Problem	Solution
Machine makes intermittent clicking noise	Check for damaged gear and replace if necessary
	Check for worn drive chain and replace if necessary
Roller will not turn	Obstruction between roller and material control deflector
	Chain off
	Burnt or mis-adjusted slip-clutch on driveline shaft
	Broken drive spindle
Operating depth insufficient	Raise gauge wheels
	Increase tractor RPM
	Clean roller
Roller gouging on the end	The gauge wheel on chain case side should be approximately 1" lower than the non-drive side gauge wheel for consistent leveling
	Set gauge wheel depth
	Correct air pressure in gauge wheels
	Level 3-point arms on tractor
Too much dirt going into the windrow or dirt going over the top of the material control deflector	Reduce ground speed
	Raise material control deflector
	Lower gauge wheels
Too many rocks passing between material control deflector and the roller	Lower material control deflector
Roller balling up with soil	Wait until soil dries
Powered Rake bumping on ground	Clean roller



Section 8: Appendix

Torque Values Chart													
Bolt Size (Inches)	Bolt Head Identification						Bolt Size (Metric)	Bolt Head Identification					
	Grade 2		Grade 5		Grade 8			mm x pitch	Class 5.8		Class 8.8		Class 10.9
in-tpi ¹	N-m ²	ft-lb ³	N-m	ft-lb	N-m	ft-lb			N-m	ft-lb	N-m	ft-lb	N-m
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4" - 12	750	555	1680	1240	2730	2010	¹ in-tpi = nominal thread diameter in inches-threads per inch ² N·m = newton-meters ³ ft-lb= foot pounds ⁴ mm x pitch = nominal thread diameter in millimeters x thread pitch						
1 3/8" - 6	890	655	1990	1470	3230	2380							
1 3/8" - 12	1010	745	2270	1670	3680	2710							
1 1/2" - 6	1180	870	2640	1950	4290	3160							
1 1/2" - 12	1330	980	2970	2190	4820	3560							

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

Tire Inflation Chart	
Tire Size	Inflation PSI
16.5 x 6.5 2- Ply	45

Section 8: Appendix

Notes

Limited Warranty

Land Pride warrants to the original purchaser that this Land Pride product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit and Driveline: One year Parts and Labor

Primary Driveline: One year Parts and Labor, Slip-clutch Friction discs considered wear items

Gearbox: 1 year Parts and Labor

Roller: Considered a wear item

Hydraulic Cylinder: 1 year parts and labor, hoses and seals considered wear items.

This Warranty is limited to the replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items. Land Pride reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Land Pride's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points, and driveline shafts.

Claims under this Warranty should be made to the dealer which originally sold the product and all warranty adjustments must be made through an authorized Land Pride dealer. Land Pride reserves the right to make changes in materials or design of the product at any time without notice.

This Warranty shall not be interpreted to render Land Pride liable for damages of any kind, direct, consequential, or contingent to property. Furthermore, Land Pride shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

This Warranty is not valid unless registered with Land Pride within 30 days from the date of purchase by the end user.



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